

```

=> s (zinc monoxide) or (zinc oxide) or (zinc white)
    647114 ZINC
      139 ZINCS
    647139 ZINC
          (ZINC OR ZINCS)
    188626 MONOXIDE
      1034 MONOXIDES
    189171 MONOXIDE
          (MONOXIDE OR MONOXIDES)
      1289 ZINC MONOXIDE
          (ZINC(W)MONOXIDE)
    647114 ZINC
      139 ZINCS
    647139 ZINC
          (ZINC OR ZINCS)
    1817566 OXIDE
      352623 OXIDES
    1917115 OXIDE
          (OXIDE OR OXIDES)
      105300 ZINC OXIDE
          (ZINC(W)OXIDE)
    647114 ZINC
      139 ZINCS
    647139 ZINC
          (ZINC OR ZINCS)
    280170 WHITE
      3504 WHITES
    281586 WHITE
          (WHITE OR WHITES)
      1057 ZINC WHITE
          (ZINC(W)WHITE)
L1      106703 (ZINC MONOXIDE) OR (ZINC OXIDE) OR (ZINC WHITE)

=> s titanium dioxide
    520408 TITANIUM
      79 TITANIUMS
    520418 TITANIUM
          (TITANIUM OR TITANIUMS)
    509549 DIOXIDE
      6821 DIOXIDES
    511279 DIOXIDE
          (DIOXIDE OR DIOXIDES)
L2      45748 TITANIUM DIOXIDE
          (TITANIUM(W)DIOXIDE)

=> s mixed oxide
    831897 MIXED
      6 MIXEDS
    831901 MIXED
          (MIXED OR MIXEDS)
    1817566 OXIDE
      352623 OXIDES
    1917115 OXIDE
          (OXIDE OR OXIDES)
L3      17758 MIXED OXIDE

```

(MIXED(W)OXIDE)

=> s 11 and 12 and 13  
L4 33 L1 AND L2 AND L3

L4 ANSWER 12 OF 33 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2001:713258 CAPLUS <<LOGINID::20071204>>  
 DOCUMENT NUMBER: 135:274541  
 TITLE: Porous, doped titanium oxides as selective oxidation  
 and dehydration catalysts  
 INVENTOR(S): Maier, Wilhelm F.; Lettmann, Christian  
 PATENT ASSIGNEE(S): Studiengesellschaft Kohle m.b.H., Germany  
 SOURCE: PCT Int. Appl., 18 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: German  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001070631	A1	20010927	WO 2001-EP2364	20010302
W: CA, JP, US				
RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR				
DE 10013934	A1	20010927	DE 2000-10013934	20000321
PRIORITY APPLN. INFO.:			DE 2000-10013934	A 20000321
AB The invention relates to mixed oxides, based on TiO <sub>2</sub> and to their production and use as particularly long-term stable oxidation and dehydration catalysts. Porous mixed oxides that are devoid of domains and that consist of at least 80 mol titanium dioxide and a maximum 20 oxides of other metals are produced according to an acid-catalyzed sol-gel process. The resulting materials have a broad distribution of pore diams. ranging between 1-10 nm and act as particularly long-term stable oxidation and dehydration catalysts for hydrocarbons.				
REFERENCE COUNT:	3	THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L4 ANSWER 15 OF 33 CAPLUS COPYRIGHT 2007 ACS on STN  
 ACCESSION NUMBER: 2000:909196 CAPLUS <<LOGINID::20071204>>  
 DOCUMENT NUMBER: 134:57108  
 TITLE: Mixed metal oxide compositions as catalysts for  
 preparation of polymers  
 INVENTOR(S): McDaniel, Max P.; Martin, Shirley J.; Collins, Kathy  
 S.; Johnson, Marvin M.  
 PATENT ASSIGNEE(S): Phillips Petroleum Co., USA  
 SOURCE: U.S., 8 pp.  
 CODEN: USXXAM  
 DOCUMENT TYPE: Patent  
 LANGUAGE: English  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
------------	------	------	-----------------	------

-----	----	-----	-----	-----
US 6165929	A	20001226	US 1998-81480	19980518
US 6531550	B1	20030311	US 2000-584438	20000531
US 2003120002	A1	20030626	US 2003-357212	20030204
US 2004143078	A1	20040722	US 2004-751619	20040105
US 6887819	B2	20050503		
US 2005131173	A1	20050616	US 2005-51430	20050204
PRIORITY APPLN. INFO.:			US 1998-81480	A3 19980518
			US 2000-584438	A3 20000531
			US 2003-357212	B1 20030204
			US 2004-751619	A3 20040105

OTHER SOURCE(S): MARPAT 134:57108

AB The title compns. contain metallocenes, mixed oxide compds., and organoaluminum compds., and are useful for polymerization of ethylene. A catalyst system contained bis(n-butylcyclopentadienyl)zirconium dichloride, tri-Et aluminum and boron-impregnated alumina.

REFERENCE COUNT: 39 THERE ARE 39 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 25 OF 33 CAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1991:50421 CAPLUS <<LOGINID::20071204>>

DOCUMENT NUMBER: 114:50421

TITLE: Preparation of extrusions of bulk mixed oxide compounds with high macroporosity and mechanical strength

INVENTOR(S): Flytzani-Stephanopoulos, Maria; Jothimurugesan, Kandaswami

PATENT ASSIGNEE(S): Massachusetts Institute of Technology, USA

SOURCE: U.S., 8 pp.  
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	----	-----	-----	-----
US 4977123	A	19901211	US 1988-208378	19880617
PRIORITY APPLN. INFO.:			US 1988-208378	19880617

AB A simple and effective method for producing bulk single and mixed oxide absorbents and catalysts yields materials which combine a high macroporosity with relatively high surface area and good mech. strength. The materials are prepared in a pellet form using calcined powders of the desired composition and phys. properties as starting compds.: these powders are crushed to broad particle size distribution, and, optionally, may be combined with an inorg. clay binder. The necessary amount of water is added to form a paste which is extruded, dried and heat-treated to yield and desired extrudate strength. The phys. properties of the extruded materials (d., macroporosity and surface area) are substantially the same as the constituent powders, the temperature of the heat treatment of the extrudates is approx. the same as the calcination temperature of the powder. If the former is substantially higher than the latter, the surface area decreases, but the macroporosity of the extrusions remains essentially constant